

## WHAT IS CLAIMED IS:

1 1. A controller for monitoring usage status of trunk lines  
2 associated with a switch, said switch capable of handling call  
3 connections between calling devices and called devices on a  
4 plurality of trunk lines associated with said switch, said  
5 controller comprising N call application nodes capable of executing  
6 a plurality of trunk idle list server applications that allocate  
7 ones of said trunk lines to said call connections, wherein a first  
8 trunk idle list server application is executed on a first one of  
9 said N call application nodes and is associated with a second trunk  
10 idle list server application executed on a second one of said N  
11 call application nodes separate from said first call application  
12 node, said first and second trunk idle list server applications  
13 thereby forming a load sharing group server application, wherein  
14 said load sharing group server application receives a trunk line  
15 allocation request from a call process being executed in said  
16 switch and selects one of said first and second trunk idle list  
17 server applications to allocate a trunk line to a call connection  
18 associated with said trunk line allocation request according to a  
19 load distribution algorithm.

1           2.    The controller as set forth in Claim 1 wherein said first  
2   trunk idle list server application allocates trunk lines from at  
3   least one trunk group associated with said first trunk idle list  
4   server application and said second trunk idle list server  
5   application allocates trunk lines from at least one' trunk group  
6   associated with said second trunk idle list server application.

1           3.    The controller as set forth in Claim 2 wherein said load  
2   distribution algorithm distributes new trunk line allocation  
3   requests to said first and second trunk idle list server  
4   applications according to a trunk group associated with said trunk  
5   line allocation requests.

1           4.    The controller as set forth in Claim 2 wherein said first  
2   trunk idle server application comprises a first primary-backup  
3   group server application, wherein said first primary-backup group  
4   server application comprises a first primary trunk idle list server  
5   application executed on said first call application node and a  
6   first backup trunk idle list server application associated with  
7   said first primary trunk idle list server application.

1           5.    The controller as set forth in Claim 4 wherein trunk line  
2   state information associated with said first primary trunk idle  
3   list server application is mirrored to said first backup trunk idle  
4   list server application associated with said first primary trunk  
5   idle list server application.

1           6.    The controller as set forth in Claim 5 wherein said first  
2   backup trunk idle list server application resides on said first  
3   call application node.

1           7.    The controller as set forth in Claim 5 wherein said first  
2   backup trunk idle list server application resides on a call  
3   application node separate from said first call application node.

1           8. The controller as set forth in Claim 2 wherein said  
2 second trunk idle list server application comprises a second  
3 primary-backup group server application, wherein said second  
4 primary-backup group server application comprises a second primary  
5 trunk idle list server application executed on said second call  
6 application node and a second backup trunk idle list server  
7 application associated with said second primary trunk idle list  
8 server application.

1           9. The controller as set forth in Claim 8 wherein state  
2 information associated with said second primary call process is  
3 mirrored to said second backup call process associated with said  
4 second primary call process.

1           10. The controller as set forth in Claim 9 wherein said  
2 second backup trunk idle list server application resides on said  
3 second call application node.

11. The controller as set forth in Claim 10 wherein said second backup trunk idle list server application resides on a call application node separate from said second call application node.

12. A wireless network comprising:

a plurality of base stations capable of communicating with a plurality of mobile stations in a coverage area of said wireless network; and

a mobile switching center coupled to said plurality of base stations and to a public switched telephone network by a plurality of trunk lines, wherein said mobile switching center is capable of handling call connections between calling devices and called devices on said plurality of trunk lines, said mobile switching center comprising:

a main processing unit capable of executing call process client applications, wherein each of said call process client applications is associated with one of said call connections; and

a controller comprising N call application nodes capable of executing a plurality of trunk idle list server applications that allocate ones of said trunk lines to said call connections, wherein a first trunk idle list server

19 application is executed on a first one of said N call  
20 application nodes and is associated with a second trunk idle  
21 list server application executed on a second one of said N  
22 call application nodes separate from said first call  
23 application node, said first and second trunk idle list server  
24 applications thereby forming a load sharing group server  
25 application, wherein said load sharing group server  
26 application receives a trunk line allocation request from a  
27 call process being executed in said switch and selects one of  
28 said first and second trunk idle list server applications to  
29 allocate a trunk line to a call connection associated with  
30 said trunk line allocation request according to a load  
31 distribution algorithm.

1 13. The wireless network as set forth in Claim 12 wherein  
2 said first trunk idle list server application allocates trunk lines  
3 from at least one trunk group associated with said first trunk idle  
4 list server application and said second trunk idle list server  
5 application allocates trunk lines from at least one trunk group  
6 associated with said second trunk idle list server application.

1           14. The wireless network as set forth in Claim 13 wherein  
2       said load distribution algorithm distributes new trunk line  
3       allocation requests to said first and second trunk idle list server  
4       applications according to a trunk group associated with said trunk  
5       line allocation requests.

1           15. The wireless network as set forth in Claim 13 wherein  
2       said first trunk idle server application comprises a first primary-  
3       backup group server application, wherein said first primary-backup  
4       group server application comprises a first primary trunk idle list  
5       server application executed on said first call application node and  
6       a first backup trunk idle list server application associated with  
7       said first primary trunk idle list server application.

1           16. The wireless network as set forth in Claim 15 wherein  
2       trunk line state information associated with said first primary  
3       trunk idle list server application is mirrored to said first backup  
4       trunk idle list server application associated with said first  
5       primary trunk idle list server application.

1           17. The wireless network as set forth in Claim 16 wherein  
2       said first backup trunk idle list server application resides on  
3       said first call application node.

1           18. The wireless network as set forth in Claim 16 wherein  
2       said first backup trunk idle list server application resides on a  
3       call application node separate from said first call application  
4       node.

1           19. The wireless network as set forth in Claim 13 wherein  
2       said second trunk idle list server application comprises a second  
3       primary-backup group server application, wherein said second  
4       primary-backup group server application comprises a second primary  
5       trunk idle list server application executed on said second call  
6       application node and a second backup trunk idle list server  
7       application associated with said second primary trunk idle list  
8       server application.



1           20. The wireless network as set forth in Claim 19 wherein  
2 state information associated with said second primary call process  
3 is mirrored to said second backup call process associated with said  
4 second primary call process.

1           21. The wireless network as set forth in Claim 20 wherein  
2 said second backup trunk idle list server application resides on  
3 said second call application node.

1           22. The wireless network as set forth in Claim 21 wherein  
2 said second backup trunk idle list server application resides on a  
3 call application node separate from said second call application  
4 node.